International Research Journal of Education and Technology
Peer Reviewed Journal

ISSN 2581-7795

Impact of Demographic Profile on the Adoption of Fintech among MSMEs in Palakkad District: An Empirical Study

Ms. Sruthi P J, Research Scholar, Department of Commerce, VLB Janakiammal College of Arts and Science, Kovaipudur, Coimbatore

Dr. M. Shahithabanu, Assistant Professor, Department of Commerce, VLB Janakiammal College of Arts and Science, Kovaipudur, Coimbatore

Abstract

The emergence of Fintech has completely changed the financial parameters, particularly for MSMEs, who had difficulties in obtaining conventional banking services and loans. The purpose of this study is to investigate how MSMEs in Palakkad district use Fintech services, influenced by the demographic factors, including gender, age, education level, and years of company experience. Data were analysed using SPSS techniques, such as regression analysis, correlation, and Chi-Square tests, utilising a structured questionnaire and a sample of 150 MSME owners. The study discovered that while age and gender do not exhibit a statistically significant association, business experience and educational attainment have a substantial impact on the adoption of Fintech. Fintech firms, legislators, and financial institutions must take these results into consideration when creating more specialised and inclusive digital financial solutions.

Keywords: Fintech, MSMEs, Demographic factors, Adoption, Usage

1. Introduction

The Indian financial ecosystem has undergone a paradigm shift with the emergence of Financial Technology (Fintech), which uses digital platforms to deliver financial services more effectively and inclusively. Fintech has become a powerful enabler, particularly for MSMEs, which frequently face obstacles in obtaining traditional forms of credit due to strict lending norms, a lack of collateral, and inadequate financial documentation (KPMG, 2020). The spread of digital payment systems, alternative lending platforms, mobile technology, and data-driven credit scoring models has greatly improved MSMEs' financial inclusion, making them essential participants in India's digital economy (Deloitte, 2021).

MSMEs are crucial to the supply of jobs and the local economy in Kerala, especially in the semi-urban and rural areas like the Palakkad district. Fintech solutions aren't always used by these businesses, though. Due to ignorance or mistrust, some entrepreneurs continue to rely on traditional informal networks, even while many digitally literate entrepreneurs use Fintech platforms for working capital loans, digital payments, and accounting (Nair & Joseph, 2022). This digital divide calls into question how demographic factors like age, gender, education, and experience affect an organization's willingness to adopt Fintech.

Higher education, early-stage entrepreneurial experience, and younger age have all been favourably correlated with adoption in the Fintech setting (PwC India, 2019). On the other hand, older or less educated business owners could reject or postpone using digital banking because they believe it to be complicated. Even though digital finance and MSME credit have been extensively studied, little empirical studies has been done on how demographic characteristics affect the adoption of Fintech in tier-2 and tier-3 cities like Palakkad. By offering data-driven insights into the demographic factors influencing Fintech usage among MSMEs in the district, this study aims to close this knowledge gap.

2. Literature Review

A major influence on attitudes towards the adoption of technology is demographics. According to Rogers' (2003) Diffusion of Innovations Theory, an individual's adoption behaviour is strongly influenced by their level of education, age, social standing, and media exposure. Accordingly, a number of empirical research have verified that entrepreneurs who are younger and better educated are more likely to use Fintech applications (Venkatesh et al., 2003). According to a study by Chatterjee and Rai (2021), MSME owners were more receptive to Fintech technologies, particularly in urban and peri-urban areas, if they had more education and fewer years of experience. Similarly, Gupta and Singh (2020) showed that gender differences also affect digital financial behaviour, with male entrepreneurs using digital lending and payment apps at slightly higher rates than female entrepreneurs. This is mainly because Male entrepreneurs have better access to technology and financial resources.

Through various government programs, including the Digital Kerala Project and the Kerala Startup Mission, Kerala has achieved significant progress in financial inclusion and digital literacy (Government of Kerala, 2021). Intra-state discrepancies still exist, though. According

ISSN 2581-7795

to a study by Nair and Joseph (2022) on MSMEs in North Kerala, rural MSMEs continued to rely on traditional banking because of trust difficulties and a lack of training, whereas urban entrepreneurs were early adopters of Fintech platforms. Fintech adoption is steadily rising in the Palakkad district, where MSMEs are primarily found in semi-urban regions. Anecdotal evidence indicates that years of company experience and educational attainment have a significant impact on adoption behaviour; nevertheless, there is a dearth of empirical research that has confirmed this association in a district-level study.

3. Objectives of the Study

- To construct a profile of the socioeconomic characteristics of MSME owners in Palakkad District.
- To measure the degree of Fintech adoption among MSMEs in Palakkad District.
- To determine how age, education, experience, and gender affect the adoption of fintech.
- To offer recommendations to Stakeholders based on the information

4. Research Methodology

A descriptive and analytical design was employed in this empirical investigation. Using stratified random sampling, 150 MSMEs from the Palakkad district were chosen as a sample. Structured questionnaires were used to gather data, and SPSS version 25 was used for analysis.

Dependent variable: Adoption of fintech (yes/no).

Independent variables: Gender, Age Group, Education Level, and Years of Business Experience.

5. Data Analysis and Interpretations

This report provides a comprehensive SPSS analysis of a research study that investigated how demographic characteristics, such as age, gender, education, and business experience, affected the adoption of Fintech by MSMEs in Palakkad. The correlations and predictive capacity of these demographic variables were determined by the study using statistical tools and quantitative approaches.

International Research Journal of Education and Technology
Peer Reviewed Journal
ISSN 2581-7795

5.1. Descriptive Characteristics

The sample consisted of 150 MSME owners. Frequencies for key demographic variables and the dependent variable (Fintech Adoption) are summarized below:

Gender	Male	80%
	Female	20%
Age Group	20-30	24.7%
	31-40	45.3%
	41-50	20%
	>50	10%
Education	Below SSLC	10%
	Higher Secondary	25%
	Graduate	45%
	Postgraduate	20%
Business Experience	<5 years	30%
	5–10 years	40%
	>10 years	30%
Fintech Adoption	Yes	65.3%
	No	34.7%

5.2. Chi-Square Test of Independence

Chi-square tests were performed to assess the association between each demographic variable and Fintech adoption.

Variable	Chi-Square (χ^2)	Df	p-value	Significance
Gender	2.901	1	0.088	Not Significant
Age Group	1.614	3	0.656	Not Significant
Education Level	10.883	3	0.012	Significant ($p < 0.05$)
Experience	13.730	2	0.001	Highly Significant

ISSN 2581-7795

5.3. Correlation Analysis

Pearson correlation analysis was conducted to determine the strength and direction of relationships between demographic variables and Fintech adoption.

Variable	r (Correlation Coefficient)	p-value	Interpretation
Education	+0.45	0.000	Moderate Positive
Experience	–0.30	0.001	Moderate Negative
Age Group	–0.27	0.002	Slight Negative

5.4. Binary Logistic Regression

Binary logistic regression was conducted to determine the predictive power of demographic variables on Fintech adoption.

Variable	B Coefficient	Wald	p-value	Interpretation
Gender	0.041	0.305	0.582	Not Significant
Age_Group	-0.271	10.26	0.002	Moderate Negative
Education	0.451	17.36	0.000	Strong Positive
Experience	-0.246	6.82	0.010	Moderate Negative

- Model Summary: R^2 (Nagelkerke) = 0.437 (43.7% of the variation in Fintech adoption can be explained by the demographics)
- Overall Prediction Accuracy: 73.3% (Indicates a good model fit)

6. Findings Discussion

The MSME sector in Palakkad is dominated by men, with 80% of respondents being male, indicating gender differences in business ownership. Fintech adoption decisions are primarily driven by middle-aged entrepreneurs, as seen by the largest age cohort, which is 31–40 years old (45.3%). The fact that 20% are postgraduates and nearly 45% are graduates indicates comparatively high literacy levels, which may encourage the adoption of digital technology. With a noteworthy 40% in the 5–10 year range, MSMEs were evenly spread across experience levels. Though roughly 35% of respondents are still unadopted, which presents a substantial policy opportunity, 65.3% of respondents have adopted Fintech, suggesting that digital money is gaining steam.

The relationships between Fintech adoption and categorical demographic characteristics were evaluated using chi-square testing. There is no statistically significant association between the variables. Fintech adoption is equally likely for male and female entrepreneurs; however, a somewhat higher proportion of men have done so. It is evident that there is no association between Age and Fintech Adoption. In this group, Age doesn't seem to have a big impact on Fintech uptake. There is a significant association between Education and Fintech adoption of entrepreneurs; the more educated a person is, the more likely they are to adopt the technology. It clearly states that Business Experience and Fintech adoption have a highly significant association. Fintech adoption is more common among those with less experience, indicating that younger company owners are more tech-savvy.

A moderate **positive** correlation between **Education and Fintech Adoption**. Higher educational levels lead to a higher likelihood of Fintech adoption. This aligns with the idea that education enhances digital and financial literacy. A moderate **negative** correlation between **Experience and Fintech Adoption**. More experienced business owners are **less likely** to adopt Fintech, possibly due to reliance on traditional financing or resistance to digital change. A mild negative relationship between **Age Group and Fintech Adoption**, older business owners are **slightly less likely** to adopt Fintech.

Gender does not affect the probability of adoption. Older age groups are less likely to adopt. As education increases, odds of adoption rise significantly. More experience reduces the odds of adoption. The analysis reveals that education level and business experience are significant predictors of Fintech adoption among MSMEs in Palakkad. Specifically, higher education levels increase the likelihood of adoption, while longer years of experience correlate negatively, possibly due to reliance on traditional financial systems. Age has a mild negative effect, and gender is not a significant factor.

7. Implications

Older or less educated MSME owners should be the focus of training and digital onboarding initiatives. Campaigns to raise awareness should target seasoned business owners who might not see the benefits of fintech. Fintech applications ought to prioritise user-friendliness, support for local languages, and tailored digital help. Reluctant user segments may be encouraged to adopt through subsidies or incentives. MSMEs that use Fintech platforms for financing, payments, or compliance should be eligible for tax breaks, subsidies, or lower interest rates from policymakers. Overcoming the Urban-Rural Gap Support programs for MSMEs in semi-urban and rural areas, such as Palakkad, should be responsive to geography rather than merely metro cities.

The research indicates that Fintech is becoming more and more necessary for credit availability and operational effectiveness. MSMEs risk losing ground to competitors if they don't use these technologies. In order to thrive in a changing financial environment, MSME owners particularly those with conventional practices should pursue basic digital literacy training.

The study's conclusions make it abundantly evident that the MSME sector needs inclusive digital transformation methods. It is impossible to overlook demographic factors like education and experience while developing financial technology or policy frameworks. To close these disparities and promote fair Fintech access and use across all MSMEs, cooperation between the public and private sectors is crucial.

References

Chatterjee, S., & Rai, D. (2021). Demographic determinants of Fintech adoption among Indian MSMEs. *International Journal of Emerging Markets*, 17(5), 1271–1290. https://doi.org/10.1108/IJOEM-10-2020-1341

Deloitte. (2021). ***Fintech in India – Powering a Digital Economy*****. Deloitte Insights.**

EY. (2021). *Fintech: Driving Financial Inclusion in India*. Ernst & Young Global Limited.

Ghosh, S. (2020). Fintech and financial inclusion: A review of existing literature. *Journal of Economics and Public Policy*, 5(2), 45–58.

Government of Kerala. (2021). *Digital Kerala – Annual Progress Report*. Department of Information Technology.

ISSN 2581-7795

Gupta, R., & Singh, M. (2020). Gender and Fintech adoption among Indian entrepreneurs: Evidence from microenterprises. *Asian Journal of Business Research*, 10(3), 35–49.

KPMG. (2020). *Fintech in India – A Global Growth Story*. KPMG India.

Nair, S., & Joseph, R. (2022). Digital Financial Inclusion of MSMEs in Kerala: Opportunities and Barriers. *Kerala Economic Journal*, 19(2), 45–58.

PwC India. (2019). *Fintech Adoption Trends in India*. PwC Report.

Reserve Bank of India. (2022). *Report of the Working Group on Digital Lending Including Lending through Online Platforms and Mobile Apps*.

Rogers, E. M. (2003). *Diffusion of Innovations* (5th ed.). Free Press.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425–478.